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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,336	11/29/2003	Mark A. Howard	142.009US01	9977

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EXAMINER

DONOVAN, LINCOLN D

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/724,336	Applicant(s) HOWARD ET AL.	
	Examiner Lincoln Donovan	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 38-48 is/are pending in the application.
- 4a) Of the above claim(s) 7,9,19-32,42 and 43 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18,38-41 and 44-48 is/are allowed.
- 6) ☒ Claim(s) 1-6,8 and 10-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07-25-05</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brosh [US 4,253,079] in view of Hasegawa et al. [US 4,959,631].

Regarding claims 1-2, 6 and 8, Brosh discloses a man-machine interface [figures 4-5] comprising:

- a planar substrate assembly including at least one planar substrate [21-23] having conductive tracks [15, 16] to form a magnetic field formed thereon in at least two planes;
- a mounting [40, figure 6] carrying an intermediate magnetic coupling element [51] allowing movement of the coupling element along a measurement direction transverse to the planar substrate in response to a user interaction; and
- a detector [43] operable to detect the position of the coupling element within the magnetic field.

Brosh discloses everything claimed except the planar assembly being formed as a single substrate.

Hasegawa et al. disclose a single magnetic substrate having a magnetic field generator formed of a plurality of planar layers having conductors thereon [figure 19].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the substrate design of Hasegawa et al. for the substrate of Brosh, in order to reduce space and simplify construction.

Regarding claim 3, Brosh discloses each of the layers having an aperture formed therethrough aligned with the measurement direction.

Regarding claim 4, Brosh discloses a printed circuit board supporting the detector within the mounting [figure 6].

Claims 10-11, 12-13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brosh, as modified, as applied to claims 1-6, 8 above, and further in view of Ely et al. [US 6,489,899].

Regarding claims 10, 13-14 and 18, Brosh discloses everything claimed except the magnetic field generator comprising a transmit aerial and a detector aerial.

Ely et al. disclose a position detector having receive windings [B] and detector windings [151].

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the magnetic field generator of Brosh, as modified, could include transmit/receive windings, as suggested by Ely et al., in order to determine the position of the coupling member.

Regarding claim 11, Brosh discloses the use of first and second excitation windings [figure 5].

Regarding claim 12, Ely et al. further teaches the signal processor using measurements and comparisons of the sine/cosine to determine the position.

Allowable Subject Matter

Claims 38-41 and 44-48 are allowed.

Claims 15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 10-26-05 have been fully considered but they are not persuasive.

Applicant argues:

[1]: neither Brosh nor Hasegawa et al. relate to a man-machine interface; and

[2]: the specific structure of Hasegawa et al. is incompatible with that the Brosh.

Examiner disagrees:

Regarding 1: In response to applicant's argument that Brosh and Hasegawa et al. are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both Brosh and Hasegawa et al. are related to controlled magnetic fields.

Regarding 2: Hasegawa is merely cited to show the use of a single planar layer to support multiple coils. Brosh discloses the sensing structure as claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Enad Elvin can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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